M. A. R. 57 (Rule 116) **No. E**

Measurement Book

Serial No. .....

Name of work ..... From ..... To .....

Name of Contractor of nature of Agency.....

Date of commencement of work.....

646045

Date	Full description, etc, of work	Number	Dimensions: Length	Dimensions: Breadth	Dimensions: Depth	Contents	Reference to last Measurement
1	2	3	4	5	6	7	8
	Bill No:- IInd & final.						
	Name of work:- Repair and Improvements to roads and drains & footpaths of Devinagar Main road in ward no.08 kodigehalli.						
	A/S No:- CE(RD)/ADM/AS/168/2019-20 Dt:- 23.10.2019.						
	T/S No:- CE(RD)/TS/125/2019-20 Dt:- 23.10.2019.						
	Job No:- 008-20-000035 P-2902. Est. Cost: Rs. 100.00 Lakhs.						
	Agreement No:- EE/RD/Wrk/Agt/14/19-20 Dt:- 18.12.2019.						
	Work Order No:- EE/RD/WO/14/19-20 Dt:- 18.12.2019						

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MEASUREMENT BOOK

Date	Full description, etc. of work	Dimensions				Contents	Reference to last Measurement
		Number	Length	Breadth	Depth		
1	2	3	4	5	6	7	8
	Agency/-	Executive Engineer-4 KRIDL, BBMP Division, Sri. Shivakumar Swamy Nilaya, No.280, 9th Cross, 17th Main Road, 3rd 'Y' block, Rajajinagara, Bangalore. Actuall date of Completion Dt:- 15/02/2021					
	(1) Removing and refixing stone slabs of drain and pointing in CM(1:3) with all lead & lift as per the direction of the Engineer in charge.						

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M. A. R. 57 (Rule 116) No. E 646046
Measurement Book

Serial No. .....
Name of work ..... From ..... To .....
Name of Contractor of nature of Agency.....
Date of commencement of work.....

Date	Full description, etc, of work	Dimensions				Contents	Reference to last Measurement
		Number	Length	Breadth	Depth		
1	2	3	4	5	6	7	8
	As per approved Qty : 63.00 Sq.m.						
	Paid Qty vide Item no. ① Pg. no. of MB 106. S106/18-19					62.90 Sq.m.	
	Present Qty = 0.00						
	2) Earthwork excavation by manual means for roads, drains & similar under ordinary soil excavated surface levelled & sides neatly dressed the disposed earth to be levelled neatly after breaking of clods complete as per the specifications						

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MEASUREMENT BOOK

Date	Full description, etc, of work	Dimensions				Contents	Reference to last Measurement
		Number	Length	Breadth	Depth		
1	2	3	4	5	6	7	8
						As per approved qty /	30.00 Cum.
						Paid qty vide Item no (2) of MB No. 5106/18-19	: 29.98 Cum.
						Present qty =	0.00
	3) Excavation for roadwork in all type of soil by mechanical means including cutting and loading to tipper, trimming bottom and side slopes, in accordance with requirement of lines grades and cross sections and transportation with a lead of 1.00 km and complete as per specifications.						
						As per approved qty	1238.56 Cum.

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M. A. R. 57 (Rule 116) No. E 646047

Measurement Book

Serial No. .....

Name of work ..... From ..... To .....

Name of Contractor of nature of Agency. .....

Date of commencement of work. .....

Date	Full description, etc. of work	Dimensions				Contents	Reference to last Measurement
		Number	Length	Breadth	Depth		
1	2	3	4	5	6	7	8	
					Paid qty vide Item No. (3) of MB No. 5106/18-19 :	234.76 Cum.	
					Present qty :	0.00	
	4) providing and laying plain cement concrete of mix 1:3:6 using OPC @ 220 kgs, using crushed 40mm and down size graded granite metal coarse aggregate @ 0.89 cum and fine aggregate @ 0.46 cum on foundation mechanically mixed, placed on foundation and compacted by vibrator including curing for 14 days including cost of all materials, labour, hire curing form works, scaffolding and centering complete as per specified						

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MEASUREMENT BOOK

Date	Full description, etc, of work	Dimensions				Contents	Reference to last Measurement
		Number	Length	Breadth	Depth		
1	2	3	4	5	6	7	8
	As per approved qty :					= 29.84 Cum	
	Paid qty vide Item No. 4 of MB No. 5106/18-19					= 29.79 Cum	
						0.00	
5)	Providing & laying plain reinforced cement concrete for side drain using M20 nominal mix concrete with OPC at 300 kg/cum, with 20mm and down size granite metal coarse aggregate @ 0.69 cum and fine aggregate @ 0.43 cum machine mixed, well compacted for walls and bottom including centering, shuttering, cost of materials, Hire of machine curing etc complete excluding cost of steel as per MORTH specification NO 1500, 1700, 2200 including cost of material						

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M. A. R. 57 (Rule 116) **No. E**

Measurement Book

646043

Serial No. .....

Name of work ..... From ..... To .....

Name of Contractor of nature of Agency.....

Date of commencement of work.....

Date	Full description, etc, of work	Dimensions				Contents	Reference to last Measurement
		Number	Length	Breadth	Depth		
1	2	3	4	5	6	7	8
	Labour, HOM complete as per specification As per approved qty Paid qty vide Item No (5) Pg. No. of MB No. S 106/18-19					: 94.80 Cum. : 94.72 Cum 0.00	
	6) Providing T.M.T steel reinforcement for R.C.C Work including straightening, cutting, bending, hooking, placing in position lapping and/or welding wherever required, tying with binding wire and anchoring to the adjoining member wherever necessary complete as per design (lap, hook & wastage						

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MEASUREMENT BOOK

Date	Full description, etc, of work	Dimensions				Contents	Reference to last Measurement
		Number	Length	Breadth	Depth		
1	2	3	4	5	6	7	8	
	shall not be measured & paid)						
	As per approved qty :					3.80 Tonne	
	Paid qty vide Bk. no. 6 Pg no. of MB no. 5106/18-19 :					3.80 Tonne	
	Present qty:					0.00	
7)	Providing & laying 100mm thick pre-cast cover slabs over drains of width not exceeding 800mm using M20 concrete reinforced with steel @ 6.00 kg/sqm, slabs jointed in CM 1:3 proportion and nicely finished including providing holes in the cover slabs wherever necessary for easy drainage of surface water including cost of labour, material cost of machinery using lead & lift charges of 1200m and						

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M. A. R. 57 (Rule 116) **No. E**

Measurement Book

646049

Serial No. .....

Name of work ..... From ..... To .....

Name of Contractor of nature of Agency.....

Date of commencement of work.....

Date	Full description, etc, of work	Dimensions			Contents	Reference to last Measurement
		Number	Length	Breadth / Depth		
1	2	3	4	5 / 6	7	8
	with all lead & lift as per the direction of engineer in charge					
		As per approved qty			: 133.00 m	
		Paid qty vide At. no. @ Pg. no. of MB No. 5106/18-19			: 133.00 m	
		Present qty:			0.00	
8)	Providing & laying heavy duty cobble stone interlock paver, 60 mm thick using cement and course sand for manufacture of blocks of approved size, shape and colour with a minimum compressive strength of 281 kg per sq cm over 50 mm thick sand bed (average thickness) and compacting with					

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MEASUREMENT BOOK

Date	Full description, etc, of work	Dimensions				Contents	Reference to last Measurement
		Number	Length	Breadth	Depth		
1	2	3	4	5	6	7	8
	Plate vibrator having 3 tons compaction force thereby doing part of land underneath to some up etc 3/4 joints final compaction of paver surface joints into its final level, including cost of material labour, tools complete as per specification.						
	As per approved qty : 240.00 Sqmt.						
	Previously Paid qty ~~vide Bt. no. & pg. no. of MB no. 9106/18-19~~ → : 0.00						
	present qty vide Bt. no. ② Pg. no. ② of 2nd & final Excel sheet booklet : 239.41 Sqmt.						
	239.41 Sqmt @ Rs. 1116=18/- per Sqmt = 267224=65/-						

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M. A. R. 57 (Rule 116) **No. E**

Measurement Book

646050

Serial No. .....

Name of work ..... From ..... To .....

Name of Contractor of nature of Agency.....

Date of commencement of work.....

Date	Full description, etc, of work	Dimensions				Contents	Reference to last Measurement
		Number	Length	Breadth	Depth		
1	2	3	4	5	6	7	8
	9) Providing and fixing pre cast solid cement concrete kerb stones made out of CC 1:2:4 mix top & bottom width 114 and 165mm respectively 400mm high & 450mm in length finished with CM 1:3 plastering and finishing curing, including formwork, curing including cost of materials, labour, charges of machines, loading & unloading lead & lift transportation etc.						
	As per approved qty : 892 Nos.						
	Paid qty vide Jt. No. 9 Pg. No. of MB No. S 106/18-19 : 535 Nos.						

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MEASUREMENT BOOK

Date	Full description, etc, of work	Dimensions				Contents	Reference to last Measurement
		Number	Length	Breadth	Depth		
1	2	3	4	5	6	7	8
	Present qty vide Bk. no. (9) pg. no. (6) of 2nd & final Excel sheet booklet					356 Nos	
	356 Nos @ Rs. 432 = 48/- per Nos =						153962 = 80/-
10)	Painting two coats after filling the surface with synthetic enamel paint in approved shades on new plastered concrete surface, with material, labour complete as per specifications with all lead & lift and as per the direction of engineer in charge						
	As per approved qty					: 672.00 Sq.m.	
	Previously Paid qty →					: 0.00	
	Present qty vide Bk. no. (10) pg. no. 8 of 2nd & final Excel sheet booklet					: 643.27 Sq.m.	
	643.27 sq.mt @ Rs. 84 = 80/- per Sq.m =						54548 = 80/-

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M. A. R. 57 (Rule 116) **No. E**

Measurement Book

646051

Serial No. .....

Name of work ..... From ..... To .....

Name of Contractor of nature of Agency.....

Date of commencement of work.....

Date	Full description, etc, of work	Dimensions				Contents	Reference to last Measurement
		Number	Length	Breadth	Depth		
1	2	3	4	5	6	7	8
	11) Scarifying bituminous course 50mm to 75mm thick along with premix carpet / surface dressing by mechanical means attached with scarifier without disturbing the base and hauling the debris including cost of all labour charges, tools complete as per specification.						
	As per approved qty					: 2511.00 sqm	
	Paid qty vide Bk. No. 11 pg. no. of MB No. 5106/18-19					: 2510.88 sqm.	
	present qty					: 0.00	

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MEASUREMENT BOOK

Date	Full description, etc, of work	Dimensions				Contents	Reference to last Measurement
		Number	Length	Breadth	Depth		
1	2	3	4	5	6	7	8
12)	Construction of granular sub-base and drainage layer by providing coarse graded crushed stone aggregate of granite / trap / basalt material, mixing by mix in place method by rotavator at OMC, spreading in uniform layer with motor grader on prepared surface and compacting with Vibratory Power roller to achieve ne 98%. proctor density Complete as per specification						
	As per approved qty : 400.65 Cum						
	previously paid qty : 376.63 Cum.						
	present qty vide Abstract (12) pg.no (1) offered & paid Excel sheet booklet : 23.94 Cum						
	23.94 Cum @ Rs. 1855 = 00 per Cum =						44410=86

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M. A. R. 57 (Rule 116) **No. E**

Measurement Book

646052

Serial No. .....

Name of work ..... From ..... To .....

Name of Contractor of nature of Agency.....

Date of commencement of work.....

Date	Full description, etc, of work	Dimensions				Contents	Reference to last Measurement
		Number	Length	Breadth	Depth		
1	2	3	4	5	6	7	8
	13) Providing, laying, spreading and compacting crushed stone aggregate of granite / trap / basalt to wet mix macadam specifications including pre-mixing the material with water at OMC in mechanical mix plant carriage of mixed material by tipper to site, laying in uniform layer with paver in sub-base / base course on well prepared surface & compact with vibratory roller to achieve the desired density complete as						

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MEASUREMENT BOOK

Date	Full description, etc, of work	Dimensions				Contents	Reference to last Measurement
		Number	Length	Breadth	Depth		
1	2	3	4	5	6	7	8
	Per specifications.						
					As per approved qty	: 564.98 Cum.	
					previously paid qty vide Item No. (13) pg. no. of MB No. 5066/18-19	: 564.98 Cum.	
					present qty	: 0.00	
14	Providing & applying primer coat with SS bitumen emulsion on prepared surface of granular base such as WBM WMM including clearing of road surface and spraying primer at the rate of 0.60 kg/sqm using mechanical means complete as per specifications.						
					As per approved qty	6026.00 sqm.	
					previously paid qty vide Et. No. (14) pg. no.		

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M. A. R. 57 (Rule 116) **No. E**

Measurement Book

646053

Serial No. .....

Name of work ..... From ..... To .....

Name of Contractor of nature of Agency.....

Date of commencement of work.....

Date	Full description, etc, of work	Number	Dimensions: Length	Dimensions: Breadth	Dimensions: Depth	Contents	Reference to last Measurement
1	2	3	4	5	6	7	8
	of MB. no. 5106/18-19				:	6025.00 sqm	
					Present qty	0.000	
	15) cleaning the existing black topped surface with brooms soft brushes and finally dusting with old gunny bags and of compressed air to recieve bituminous treatment including cost of all materials, labour etc complete as per specification.						
	As per approved qty				:	3515.00 sqm	
	previously paid qty vide 20.no(15) pg.no.				:	3514.12 sqm.	
	of MB no. 5106/18-19				present qty	0.000	

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MEASUREMENT BOOK

Date	Full description, etc, of work	Dimensions				Contents	Reference to last Measurement
		Number	Length	Breadth	Depth		
1	2	3	4	5	6	7	8
	b) Providing & applying tack coat using 80/100 grade bitumen (VG10) on the prepared black topped surface at 2.5 kg per 10 sqm heating bitumen in boiler fitted with spray set (excluding cleaning of road surface) including cost of all materials, labour, etc complete as per specification with all lead & lift as per direction of engineer in charge						
	As per approved qty					: 6026.00 sqmt.	
	previously paid qty vide Lt. no. 16 pg. no. of MB no. 5106/18-19					: 6025.00 sqmt	
	present qty					: 0.00	

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M. A. R. 57 (Rule 116) No. E

Measurement Book

646054

Serial No. .....

Name of work ..... From ..... To .....

Name of Contractor of nature of Agency.....

Date of commencement of work.....

Date	Full description, etc, of work	Dimensions				Contents	Reference to last Measurement
		Number	Length	Breadth	Depth		
1	2	3	4	5	6	7	8
12	providing and laying dense graded bituminous macadam using Crushed aggregate of specified grading premixed with VG 30 grade bituminous binder and transporting the hot mix to work site laying to the required grade, level and alignment, rolling with smooth wheeled, vibratory and tandem roller to achieve the desired compaction in all respects complete as per specification clause 505 of MoRTH revision-4 40/60 TPH capacity HMP with mechanical paver Cradle						

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MEASUREMENT BOOK

Date	Full description, etc, of work	Dimensions				Contents	Reference to last Measurement
		Number	Length	Breadth	Depth		
1	2	3	4	5	6	7	8
	(50mm to 75mm) compacted lead & lift and	cum	415.1	VG-30		bitumen emulsion all as per direction of engineer in charge	
			As per approved qty :			301.30 cum.	
			Previously paid qty vide Pt.no. 17 pg.no. of MB No. 5106/18-19 :			301.25 cum	
						Present qty = 0.00	
18)	Providing & laying bituminous concrete 40mm thick with hot mix plant, using crushed aggregates of specified grading, premixed with bituminous binder & filler, transporting the hot mix, laying with paver finisher to the required grade, level and alignment, rolling with smooth						

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M. A. R. 57 (Rule 116) No. E

Measurement Book

646055

Serial No. .....

Name of work ..... From ..... To .....

Name of Contractor of nature of Agency.....

Date of commencement of work.....

Date	Full description, etc, of work	Number	Dimensions: Length	Dimensions: Breadth	Dimensions: Depth	Contents	Reference to last Measurement
1	2	3	4	5	6	7	8
	Wheeled vibratory and tandem roller to achieve the desired compaction in all respects complete as per specification. Clause 507 of MoRTH V revision as per IRC SP-53-2015, using -do- using 40-60 TDM capacity HMP with mechanical paver grading II (30-45mm) with 5.4% of modified bituminous binder content of 4.9%						
		As per approved qty				: 241.04 Cum.	
		previously paid qty				: 241.00 Cum	
		present qty				= 0.00	

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MEASUREMENT BOOK

Date	Full description, etc. of work	Dimensions				Contents	Reference to last Measurement
		Number	Length	Breadth	Depth		
1	2	3	4	5	6	7	8
	19) Road Marking with hot applied thermoplastic compound with reflectorising glass beads on bituminous surface / Concrete surface, providing & laying of hot applied thermoplastic compound 2.5mm thick including reflectorising glass beads at 250 gm per sqm area, thickness of 2.5mm is exclusive of surface applied glass beads as per IRC : 35 standards specified						
	As per approved qty : 126.50 sqm						
	previously paid qty : 100.00 sqm						
	present qty vide 2nd no. (19) Agreed of 2nd & final Excel sheet booklet					124.50 sqmt	
	124.50 sqmt @ Rs. 454 = 74/- per sqmt = 56615 = 13/-						

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M. A. R. 57 (Rule 116) No. E 646056
Measurement Book

Serial No. .....
Name of work ..... From ..... To .....
Name of Contractor of nature of Agency.....
Date of commencement of work.....

Date	Full description, etc, of work	Dimensions				Contents	Reference to last Measurement
		Number	Length	Breadth	Depth		
1	2	3	4	5	6	7	8
20	Supply & Installation of moulded kerb raised pavement marker made of polycarbonate & ABS moulded body & reflective panels with micro prismatic lens capable of providing total internal reflection of the light entering the lens face and shall support a load of 16000 kg tested in accordance to specification of category 'A' & 'B' with circular No RW/NH/33023/10-97-DO III Dt 11.06.1997. The height width & length shall not exceed 30mm, 100mm & 102mm and with minimum reflective area of						

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MEASUREMENT BOOK

Date	Full description, etc. of work	Dimensions				Contents	Reference to last Measurement
		Number	Length	Breadth	Depth		
1	2	3	4	5	6	7	8
	13 kgcm on each side and the slope to the bore should be 35 degree. The strength of detachment of the integrated cylindrical shanks (of diameter not less than 19mm and height not less than 30mm) from the body is to be a minimum value of 500 kg. Bring with the drilling holes on the road for the shanks to go inside without mark & using epoxy resin based adhesive as per manufacture recommendation with all lead & lift as per the direction of engineer in charge.						
	As per approved qty : 225.00 nos						
	previously paid qty : 0.00						
	Present qty vide M.B. No. 20						

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M. A. R. 57 (Rule 116) No. E 646057

Measurement Book

Serial No. .....

Name of work ..... From ..... To .....

Name of Contractor of nature of Agency.....

Date of commencement of work.....

Date	Full description, etc, of work	Dimensions			Contents	Reference to last Measurement
		Number	Length	Breadth / Depth		
1	2	3	4	5 / 6	7	8
	ME & EE 26/2/21 225 nos @ Rs. 357=22/- per nos	Pg.no. 10 of 2nd & final Excel Sheet			225 nos = 80374 = 50/- 65 7136 = 59. + 4% kRIDL charges = 26285 = 46 + 12% GST charges = 78856 = 39 76 2278 = 45/-	
	Rupees Seven lakhs Sixty two thousand two hundred seventy Eight.					
	Varu 26/02/2021 AE				26/2/2 EE	

Assistant Executive Engineer
Road Infrastructure, (Yelahanka Division)
Bruhat Bengaluru Mahanagara Palike

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MEASUREMENT BOOK

Date	Full description, etc. of work	Dimensions				Contents	Reference to last Measurement
		Number	Length	Breadth	Depth		
1	2	3	4	5	6	7	8

Certificate

1. Certified that the work done is satisfactorily.
2. There is no departmental issues by BBMP.

26/02/2021

Assistant Executive Engineer
Road Infrastructure (Asphalting) Division
Bruhat Bangalore Mahanagara Palike
Bengaluru - 560 002

Rs. 762278-00
651965-00
Rupees Six lakh fifty one thousand nine hundred and sixty four only
651965-00 by Cheque
110313-00 by Adjustment

AAA | Account Superintendent | E.E.(R.I.)

2nd & Final Bill 9786395-00
Previous Pay 9024116-00
Present Pay 762278-00

IT 1.5%	10251-00
CGST	6834-00
SGST	6834-00
LWF	6834-00
CBF 0.1%	683-00
Royalty	40762-00
FSD 5%	38115-00
Adj	110313-00

By cheque: 651965-00

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